

THE INVENTION CLAIMED IS:

1. A mounting assembly for a wafer-scrubber brush,
comprising:

5 a mounting member adapted to be mounted to a wall of a
wafer scrubbing device;

a bearing secured to the mounting member; and

10 a brush support rotatably mounted on the bearing and
having an outer end that includes a contact surface adapted
to contact a brush mandrel, the contact surface having a
spherical profile.

15 2. The mounting assembly of claim 1, wherein the contact
surface has a convex shape adapted to mate with a concave
portion of the brush mandrel.

20 3. The mounting assembly of claim 1, wherein the contact
surface has a concave shape adapted to mate with a convex
portion of the brush mandrel.

4. The mounting assembly of claim 1, further comprising a
spring enclosed in the brush support and adapted to bias the
outer end of the brush support against the brush mandrel.

25 5. The mounting assembly of claim 1, wherein the outer end
of the brush support includes an extension member that
extends outwardly beyond the contact surface and is adapted
to limit rotational motion of the outer end of the brush
support relative to the brush mandrel.

30 6. A mandrel adapted to mount a wafer-scrubber brush, the
mandrel comprising a generally cylindrical body, the body
having an end adapted to couple to a mounting support, the

end including a contact surface adapted to contact the mounting support, the contact surface having a spherical profile.

5 7. The mandrel of claim 6, wherein the contact surface has a concave shape adapted to mate with a convex portion of the mounting support.

10 8. The mandrel of claim 6, wherein the contact surface has a convex shape adapted to mate with a concave portion of the mounting support.

15 9. The mandrel of claim 6, further comprising a spring mounted in the body and adapted to bias the end against the mounting support.

20 10. A wafer scrubbing device, comprising:
a first mounting assembly; and
a brush assembly mounted to the first mounting assembly;
the first mounting assembly and the brush assembly having respective joint portions that mate together to form a first spherical joint.

25 11. The wafer scrubbing device of claim 10, wherein the first mounting assembly includes a spring adapted to bias the joint portion of the first mounting assembly toward the joint portion of the brush assembly.

30 12. The wafer scrubbing device of claim 10, wherein the brush assembly includes a spring adapted to bias the joint portion of the brush assembly toward the joint portion of the first mounting assembly.

13. The wafer scrubbing device of claim 10, wherein the joint portion of the first mounting assembly is convex and the joint portion of the brush assembly is concave.

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14. The wafer scrubbing device of claim 10, wherein the joint portion of the first mounting assembly is concave and the joint portion of the brush assembly is convex.

10 15. The wafer scrubbing device of claim 10, further comprising a second mounting assembly to which the brush assembly is mounted, the second mounting assembly and the brush assembly having respective joint portions that mate together to form a second spherical joint.

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16. The wafer scrubbing device of claim 15, wherein at least one of the mounting assemblies includes a spring adapted to bias the joint portion of the respective mounting assembly toward a corresponding joint portion of the brush assembly.

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17. The wafer scrubbing device of claim 15, wherein the brush assembly includes a spring adapted to bias one of the joint portions of the brush assembly toward the joint portion of a corresponding one of the brush assemblies.

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18. The wafer scrubbing device of claim 15, wherein the joint portions of the mounting assemblies are convex and the joint portions of the brush assembly are concave.

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19. The wafer scrubbing device of claim 15, wherein the joint portions of the mounting assemblies are concave and the joint portions of the brush assembly are convex.

20. The wafer scrubbing device of claim 15, wherein the joint portion of the first mounting assembly is convex, the joint portion of the second mounting assembly is concave, the joint portion of the brush assembly corresponding to the first mounting assembly is concave, and the joint portion of the brush assembly corresponding to the second mounting assembly is convex.

21. A mandrel adapted to mount a wafer-scrubber brush, the mandrel comprising a generally cylindrical body, the body having a first end adapted to couple to a first mounting support and a second end adapted to couple to a second mounting support, the first end including a first contact surface adapted to contact the first mounting support, the first contact surface having a spherical profile, the second end including a second contact surface adapted to contact the second mounting support, the second contact surface having a spherical profile.

22. The mandrel of claim 21, wherein the first contact surface has a concave shape adapted to mate with a convex portion of the first mounting support.

23. The mandrel of claim 21, wherein the first contact surface has a convex shape adapted to mate with a concave portion of the first mounting support.

24. The mandrel of claim 23, wherein the second contact surface has a concave shape adapted to mate with a convex portion of the second mounting support.

25. The mandrel of claim 21, further comprising a spring mounted in the body and adapted to bias at least one of the ends against a corresponding mounting support.

5 26. A mounting assembly for a wafer-scrubber brush, comprising:

a bearing;

a brush support rotatably mounted on the bearing and having an outer end adapted to couple to a brush mandrel;

10 and

a flexure adapted to flexibly mount the bearing to a mounting member.

15 27. The mounting assembly of claim 26, wherein the outer end of the brush support includes a contact surface adapted to contact the brush mandrel, the contact surface having a spherical profile.

20 28. The mounting assembly of claim 26, further comprising:
a housing in which the bearing is mounted; and
a second bearing mounted in the housing;
the housing being mounted on the flexure.